NON-PUBLIC?: N
ACCESSION #: 9006140214

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Joseph M. Farley - Unit 2 PAGE: 1 OF 3

DOCKET NUMBER: 05000364

TITLE: Reactor Trip During Startup Caused by Procedural Inadequacy
EVENT DATE: 05/12/90 LER #: 90-001-00 REPORT DATE: 06/08/90

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 008

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: D. N. Morey, General Manager-Nuclear Plant

TELEPHONE: (205) 899-5156

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

At 0615 on 5-12-90, during a unit startup, the reactor tripped due to low-low water level in the 2A steam generator. The low-low water level occurred when the steam supply valves for the on-service steam generator feedwater pump (SGFP) closed. Testing being performed in accordance with FNP-2-STP-151.4 (Main Turbine Protective Device Test) resulted in low electro-hydraulic (EH) fluid pressure which caused the SGFP valves to close.

This event was caused by procedural inadequacy. FNP-2-STP-151.4 did not provide adequate guidance concerning the initial conditions required to perform the procedure. Testing performed subsequent to the reactor trip showed that it is not appropriate to perform this procedure while feedwater is being provided by a SGFP.

FNP-2-STP-151.4 has been revised to provide additional initial conditions to prevent performing the procedure when an SGFP is in service.

END OF ABSTRACT

TEXT
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Plant an System Identification

Westinghouse - Pressurized Water Reactor Energy Industry Identification System codes are identified in the text as XX!.

Summary of Event

At 0615 on 5-12-90, during a unit startup, the reactor tripped due to low-low water level in the 2A steam generator AB!. The low-low water level occurred when the steam supply valves for the on-service steam generator feedwater pump (SGFP) SJ! closed. Testing being performed in accordance with FNP-2-STP-151.4 (Main Turbine Protective Device Test) resulted in low electro-hydraulic (EH) fluid TG! pressure which caused the SGFP valves to close.

Description of Event

At approximately 0615 on 5-12-90, a limit switch on main steam isolation valve (MSIV) 3370A was placed in the closed position in accordance with an established surveillance procedure (FNP-2-STP-151.4). By plant design this caused the turbine governor, intercept and reheat stop valves to close due to draining of EH fluid through the dump valves for each turbine valve. In this condition (all turbine valves closed), the turbine appears to be tripped. However, the turbine was still latched and the turbine control system was calling for the valves to be open. The operators did not recognize this condition nor did they realize this placed a large demand on the EH fluid system causing EH pressure to decrease rapidly. This EH fluid pressure drop vas not noticed by the operators. However, the EH pressure drop caused the SGFP steam supply valves to close resulting in a loss of feedwater flow and the decrease in steam generator levels.

In response to the loss of feedwater, the operators started all auxiliary feedwater pumps and decreased reactor power. However, these actions failed to restore steam generator level prior to the 2A steam generator level decreasing to the low-low level setpoint. A reactor trip occurred at 0615 on 5-12-90. Reactor power had been decreased to approximately 3

percent when the trip occurred.

Following the trip, the operators implemented FNP-2-EEP-0 (Reactor Trip or Safety Injection) and FNP-2-ESP-0.1 (Reactor Trip Response), ensuring that the unit was safely in Mode 3 (Hot Standby). The unit was maintained in a stable condition.

Cause of Event

This event was caused by procedural inadequacy. FNP-2-STP-151.4 did not provide adequate guidance concerning the initial conditions required to perform the procedure. Testing performed subsequent to the reactor trip showed that it is not appropriate. to perform this procedure while feedwater is being provided by an SGFP.

Corrective Action
FNP-2-STP-151.4 has been revised to provide additional initial conditions to prevent performing the procedure when an SGFP is in service.

Reportability Analysis and Safety Assessment

This event is reportable because of the actuation of the reactor protection system. After the trip, the following safety systems operated as designed:

- main feedwater was isolated with flow control valves and bypass valves closed,

- source range nuclear instrumentation automatically energized, and

- pressurizer heaters and spray valves operated automatically as required to maintain system pressure.

There was no effect on the health and safety of the public.

Additional Information

No components failed during this event.

This event would not have been more severe if it had occurred under different operating conditions. A reactor trip occurred during performance of FNP-2-STP-151.4 on May 13, 1986. Review of the trip report in 1990 for this previous event indicates it was similar to the

current event. However, personnel in 1986 performed an inadequate root cause analysis. In May of 1986, the trip was believed to have been caused by loss of EH fluid pressure due to a governor valve EH fluid dump valve sticking open when the turbine was being latched. This improper cause analysis is believed to have been made due to the surveillance procedure improperly instructing the operator to latch the turbine after testing the MSIV 3370A limit switch. This guidance was improper and misleading since the turbine does not receive a trip signal by testing the MSIV 3370A limit switch. As a result of procedure review unrelated to the May 1986 trip, this instruction was removed from the procedure.

Corrective actions taken in 1986 included adding precautions in procedures for monitoring EH pressure when latching the turbine and tripping the turbine if low EH fluid pressure threatens SGFP operation. These corrective actions did not prevent recurrence, since the turbine was not being relatched and therefore EH fluid pressure was not monitored. The actual cause of both reactor trips was the performance of FNP-2-STP-151.4 which by design causes a large drop in EH fluid pressure. Determination of root cause for events has since been stressed and improved, as evidenced by current proper determination of the May 12, 1990 trip.

ATTACHMENT 1 TO 9006140214 PAGE 1 OF 1

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W. G. Hairston, III
Senior Vice President Alabama Power
Nuclear Operations the southern system
10CFR50.73
June 8, 1990

Docket No. 50-364

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Joseph M. Farley Nuclear Plant - Unit 2
Licensee Event Report No. LER 90-001-00

Joseph M. Farley Nuclear Plant, Unit 2 Licensee Event Report No. LER 90-001-00 is being submitted in accordance with 10CFR50.73.

If you have any questions, please advise.

Respectfully submitted,

W. G. Hairston, III

WGH,III/JAR:mgd 16.19

Enclosure

cc: Mr. S. D. Ebneter
Mr. G. F. Maxwell

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